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Title : Neighbour density and state affects pupping site choice in grey seals.

Category : Behavior

Student : Not Applicable

Preferred Format : Oral Presentation

Abstract : Choice of breeding site is extremely important in determining an animal's reproductive success. Colonial breeders are thought to be attracted to areas where conspecifics are present. Most grey seals in the UK breed in isolated colonies where their distribution follows topographical characteristics such as slope and access to water. However the distribution and state of seals in an area may also influence patterns of colonization: although pregnant females aggregate near access from the sea in groups where neighbours touch, mothers have an "exclusion zone" of approximately 3m radius within which intruders are attacked.

We tested the null-hypotheses: (1) there is no diurnal variation in timing of arrivals; (2) choice of pupping site by arriving females is independent of conspecific presence/absence or their parity. Pregnant grey seals were observed coming ashore at North Rona, Scotland between 1998-2002. In 2001 and 2002, tracks of arrivals and their "stop" location were recorded on fine-scale maps. Similar daily maps of all seals present allowed determination of the number and type of neighbours in 100m² around each arrival's "stop" location.

1. The number of females coming ashore was greatest between 1500-1700. Tidal state had little effect, possibly because of variations in swell conditions. 2. Typically females moved directly to pupping sites, suggesting prior knowledge of the colony (likely due to the widespread long term site fidelity shown by these seals) and tended to pup away from the highest densities of females already present. Almost 90% of arrivals went to areas that were either empty (101/222) or had fewer than 5 seals present (91/222). Only 15/222 arrivals joined pregnant groups containing 5 or more females. Thus aggregations of pregnant grey seals are not the primary destination of females breeding on North Rona and may even be composed of animals likely to breed elsewhere.